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PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER	
TABONE JR, JOHN J	
ART UNIT	**PAPER NUMBER**
2133	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/091,602	NIEMELA, KARI	
	Examiner	Art Unit	
	John J. Tabone, Jr.	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08312005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL DETAILED ACTION

1. Claims 1-32 are pending in the application where new claims 23-32 were added. Claims 1-22 have been amended.

2. The Examiner has withdrawn the claim objections.

3. The Examiner has withdrawn the 35 USC 112, second paragraph rejections except for claims 1 and 12, point f, as well as claims 10 and 21, point b, which have not been addressed or corrected by the Applicant.

Response to Arguments

4. Applicant's arguments filed 07/12/2005 concerning claims 1-22 have been fully considered but they are not persuasive. Claims 23-32 have further been rejected in the present Office Action.

As per arguments for independent claims 1 and 12:

The Applicant argues on page 12, first paragraph, "However, Rasanen fails to disclose, teach or suggest omitting transmission of data frames based on a determination that the user data is missing. Rasanen fails to disclose determining whether to omit transmission when data is not present". The Examiner disagrees and asserts that Rasanen teaches "omitting transmission of data frames based on a determination that the user data is missing" in that Rasanen's GSM system is a time division multiple access system in which communication on the radio path takes place in successive TDMA frames, each of which consists of several time-slots (during a certain

period). Rasanen also teaches in each time-slot (during a certain period) a short information package (user data is missing) is sent (the transmitter transmits user data to the receiver using data frames of the traffic channel) in form of a radio frequency burst having a finite duration and consisting of a group of modulated bits.

The Applicant argues on page 12, second paragraph, "Further, Rasanen fails to disclose, teach or suggest calculation, by the transmitter, of a number of frames transmitted to the receiver on the traffic channel during a certain time period". The Examiner disagrees and asserts that Rasanen teaches "calculation, by the transmitter, of a number of frames transmitted to the receiver on the traffic channel during a certain time period" in that in the non-transparent data transmission over a circuit switched connection, data is transmitted from a transmitting party A to a receiving party B in Radio Link Protocol (RLP) frames which are numbered (the transmitter calculates the number of frames transmitted to the receiver).

The Applicant argues on page 12, third paragraph, "Moreover, Rasanen fails to disclose, teach or suggest a receiver calculating a number of frames received and correctly decoded during that certain time period". The Examiner disagrees and asserts that Rasanen teaches "a receiver calculating a number of frames received and correctly decoded during that certain time period" in that the receiver tests each received frame for correctness and if the frame is detected to be correct, the receiving party acknowledges the reception by using the frame number (the receiver calculates the number of all frames received and decoded correctly). (Col. 1, ll. 46-67). Rasanen also emphasizes this in that data is transmitted over a non-transparent data connection in

data frames using a communication protocol that acknowledges the received correct data frames and re-transmits the received defective data frames. (Col. 2, ll. 66, 67, col. 3, ll. 1-3).

The Applicant argues on page 12, fourth paragraph, "Likewise, Rasanen fails to disclose, teach or suggest calculation of a quality value for a service to be transmitted on the traffic channel during a certain time period by subtracting the number of frames transmitted during that certain time period from the number of frames received during that certain time period and by dividing the difference obtained by the number of frames transmitted during that certain time period". The Applicant further argues on page 13, third paragraph, "Bonta fails to remedy these deficiencies because Bonta (in particular, column 4, lines 41-44 and column 6, lines 13) merely discloses calculation of a frame erasure rate data in a modem simulator". The Examiner agrees that Rasanen fails to disclose, teach or suggest "calculating a quality value for a service to be transmitted on the traffic channel during a certain time period by subtracting the number of frames transmitted during that certain time period from the number of frames received during that certain time period and by dividing the difference obtained by the number of frames transmitted during that certain time period". However, Rasanen does teach that the quality of a non-transparent connection is monitored (a quality value is calculated). (Col. 3, ll. 17-18). Rasanen also teaches channel coding FEC (Forward Error Correction) is employed on the traffic channel for reducing the effect of transmission errors on the radio path. (Col. 5, ll. 4-6). Rasanen also teaches monitoring the throughput (quality is monitored) may be based on calculating the "sliding or floating" of the success ratio (a

quality value is calculated) e.g. with an equation: AVE(n+1)=AVE(n)*(1-D)+MEAS*D, where: AVE(i) is an average value at instant i, D is a "history co-efficient" (0<D<1), MEAS is the last "measurement", MEAS=1 represents a successfully acknowledged transmission, MEAS=0 represents re-transmission of a frame, 0.ltoreq.AVE(i).ltoreq.1. (Col. 8, ll. 4-17). Concerning Applicant's arguments concerning Bonta the Examiner disagrees and asserts that Bonta teaches the cited claim limitation in that Bonta's modem simulator 40 outputs frame erasure rate data 46, which is stored by computer 12 in memory 18, for computing frame erasure curves based on the frame erasure rate data 46, where FER is the fraction of frames erased to total frames (F_R- F_T / F_T). (Col. 4, ll. 41-44, col. 6. ll. 11-13).

As per arguments for independent claim 2:

The Applicant argues on page 13, first paragraph, "Rasanen fails to teach or suggest that silence descriptor claims may be transmitted in place of data frames (as recited in claim 2)". The Examiner disagrees and asserts that Rasanen substantially teaches the "silence descriptor" limitation as recited in claim 2 and other like claims as set forth in the rejection of claims 2-4 and 13-15 below.

It is the Examiner's conclusion that independent claims 1 and 12 are not patentably distinct or non-obvious over the prior arts of record namely, Rasanen et al. (US-5920545) in view of Bonta et al. (US-6097957). Therefore, the rejection is maintained. Based on their dependency on independent claims 1 and 12, claims 2-11, and 13-22, respectively, stand rejected.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 12, 23, 25, 27, 29 and 31:

a. Claims recite the limitation "the difference obtained". There is insufficient antecedent basis for this limitation in the claim.

Claims 10 and 21:

a. The claim limitations "the transmitter signals" and "means for signalling the number..." are unclear and, therefore, renders the claims indefinite. It is not clear to the Examiner how the transmitter signals. Clarification is required.

Claims 2-9, 11, 13-20, 22-32:

These claims are also rejected because they depend on claim 1, 12, 23, 25, 27, 29 and 31 and have the same problems of indefiniteness and insufficient antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 5, 10, 12, 16, 21,23, 25, 27, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasanen et al. (US-5920545), hereinafter Rasanen, in view of Bonta et al. (US-6097957), hereinafter Bonta.

Claims 1 and 12:

Rasanen teaches mobile services switching center MSC switches incoming and outgoing calls and also carries out functions typical of mobile telecommunication only, such as location management of the subscribers in cooperation with the subscriber registers (not shown) of the network. Rasanen also teaches mobile stations (MS) (receiver) are connected to the MSC via base station systems BSS (transmitter), which consists of base station controllers BSC and base stations BTS. (Col. 4, ll. 22-31). Rasanen further teaches the GSM system is a time division multiple access system in which communication on the radio path takes place in successive TDMA frames, each of which consists of several time-slots (during a certain time period). Rasanen even further teaches in each time-slot (during a certain time period) a short information package (user data are missing) is sent (the transmitter transmitting user data to the receiver using data frames of the traffic channel) in form of a radio frequency burst having a finite duration and consisting of a group of modulated bits. Rasanen goes on to teach that the time-slots are mainly used for transmitting control channels (the transmitter transmitting control data to the receiver using associated control channels) and traffic channels (the transmitter transmitting user data to the receiver using data frames of the traffic channel) where on traffic channels, speech or data is transmitted

and on control channels, signaling is carried out between the base station and the mobile station (the transmitter transmitting user data to the receiver). (Col. 4, ll. 31-41). Rasanen discloses in the non-transparent data transmission over a circuit switched connection, data is transmitted from a transmitting party A to a receiving party B in Radio Link Protocol (RLP) frames which are numbered (the transmitter calculating the number of frames transmitted to the receiver). Rasanen also discloses the receiver tests each received frame for correctness and if the frame is detected to be correct, the receiving party acknowledges the reception by using the frame number (the receiver calculating a number of all frames received and decoded correctly). (Col. 1, ll. 46-67). Rasanen further emphasizes this in that data is transmitted over a non-transparent data connection in data frames using a communication protocol that acknowledges the received correct data frames and re-transmits the received defective data frames. (Col. 2, ll. 66, 67, col. 3, ll. 1-3).

Rasanen does not explicitly teach "a quality value is calculated ... by subtracting the number of frames transmitted ... from the number of frames received ... and by dividing the difference obtained by the number of frames transmitted", also referred to in the specification on page 3, ¶ 10 as a frame erasure ratio FER, hereinafter referred as $(F_R - F_T / F_T)$. However, Rasanen does teach that the quality of a non-transparent connection is monitored (a quality value is calculated). (Col. 3, ll. 17-18). Rasanen also teaches channel coding FEC (Forward Error Correction) is employed on the traffic channel for reducing the effect of transmission errors on the radio path. (Col. 5, ll. 4-6). Rasanen also teaches monitoring the throughput (quality is monitored) may be based

on calculating the "sliding or floating" of the success ratio (a quality value is calculated) e.g. with an equation: AVE(n+1)=AVE(n)*(1-D)+MEAS*D, where: AVE(i) is an average value at instant i, D is a "history co-efficient" (0<D<1), MEAS is the last "measurement", MEAS=1 represents a successfully acknowledged transmission, MEAS=0 represents re-transmission of a frame, 0.Itoreq.AVE(i).Itoreq.1. (Col. 8, ll. 4-17). Bonta teaches in an analogous art the modem simulator 40 outputs frame erasure rate data 46, which is stored by computer 12 in memory 18, for computing frame erasure curves based on the frame erasure rate data 46, where FER is the fraction of frames erased to total frames (F_R- F_T / F_T). (Col. 4, ll. 41-44, col. 6. ll. 11-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rasanen's quality monitoring scheme with Bonta's frame erasure rate data 46 calculating scheme. The artisan would have been motivated to do so because this would enable Rasanen to enhance the quality monitoring scheme take into account the frame erasure rates of the traffic channel.

Claims 5 and 16:

"the transmitter is in the network part of the cellular radio network and the receiver is in a subscriber terminal"

Rasanen teaches mobile services switching center MSC switches incoming and outgoing calls and also carries out functions typical of mobile telecommunication only, such as location management of the subscribers in cooperation with the subscriber registers (not shown) of the network. (Col. 4, ll. 22-31).

"the receiver signals the number of all frames received on the traffic channel and decoded correctly to the transmitter"

Rasanen teaches the receiver tests each received frame for correctness and if the frame is detected to be correct, the receiving party acknowledges the reception by using the frame number (the receiver calculates the number of all frames received and decoded correctly). (Col. 1, ll. 46-67).

"the quality value is calculated for a downlink in the network part"

Bonta teaches for a given mobile communication unit and fixed communication unit, the modem simulator 40 generates interference values such as downlink frame erasure rate data 46 or frame erasure rate curves for a specified signal to noise ratio.

Claims 10 and 21:

These claims are rejected per claims 5 and 16 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the transmitter is in a subscriber terminal and the receiver in the network part of the cellular radio network. The artisan would have been motivated to do so because in any communication system the mobile stations (MS) and the base station systems BSS have both a transmitter and a receiver and as a result the quality measurements can take place on both the transmitter side and the receiver side as rejected per claims 5 and 16 above.

Claims 23, 25, 27, 29 and 31:

Rasanen teaches mobile services switching center MSC switches incoming and outgoing calls and also carries out functions typical of mobile telecommunication only,

such as location management of the subscribers in cooperation with the subscriber registers (not shown) of the network. Rasanen also teaches mobile stations (MS) (receiver) are connected to the MSC via base station systems BSS (transmitter), which consists of base station controllers BSC and base stations BTS. (Col. 4, ll. 22-31). Rasanen further teaches the GSM system is a time division multiple access system in which communication on the radio path takes place in successive TDMA frames, each of which consists of several time-slots (during a certain time period). Rasanen even further teaches in each time-slot (during a certain time period) a short information package (user data are missing) is sent (the transmitter transmitting user data to the receiver using data frames of the traffic channel) in form of a radio frequency burst having a finite duration and consisting of a group of modulated bits. Rasanen goes on to teach that the time-slots are mainly used for transmitting control channels (the transmitter transmitting control data to the receiver using associated control channels) and traffic channels (the transmitter transmitting user data to the receiver using data frames of the traffic channel) where on traffic channels, speech or data is transmitted and on control channels, signaling is carried out between the base station and the mobile station (the transmitter transmitting user data to the receiver). (Col. 4, ll. 31-41). Rasanen discloses in the non-transparent data transmission over a circuit switched connection, data is transmitted from a transmitting party A to a receiving party B in Radio Link Protocol (RLP) frames which are numbered (the transmitter calculating the number of frames transmitted to the receiver). Rasanen also discloses the receiver tests each received frame for correctness and if the frame is detected to be correct, the

receiving party acknowledges the reception by using the frame number (the receiver calculating a number of all frames received and decoded correctly). (Col. 1, ll. 46-67). Rasanen further emphasizes this in that data is transmitted over a non-transparent data connection in data frames using a communication protocol that acknowledges the received correct data frames and re-transmits the received defective data frames. (Col. 2, ll. 66, 67, col. 3, ll. 1-3).

Rasanen does not explicitly teach "a quality value is calculated ... by subtracting the number of frames transmitted ... from the number of frames received ... and by dividing the difference obtained by the number of frames transmitted", also referred to in the specification on page 3, ¶ 10 as a frame erasure ratio FER, hereinafter referred as $(F_R - F_T / F_T)$. However, Rasanen does teach that the quality of a non-transparent connection is monitored (a quality value is calculated). (Col. 3, ll. 17-18). Rasanen also teaches channel coding FEC (Forward Error Correction) is employed on the traffic channel for reducing the effect of transmission errors on the radio path. (Col. 5, ll. 4-6). Rasanen also teaches monitoring the throughput (quality is monitored) may be based on calculating the "sliding or floating" of the success ratio (a quality value is calculated) e.g. with an equation: AVE(n+1)=AVE(n)*(1-D)+MEAS*D, where: AVE(i) is an average value at instant i, D is a "history co-efficient" (0<D<1), MEAS is the last "measurement", MEAS=1 represents a successfully acknowledged transmission, MEAS=0 represents re-transmission of a frame, 0.ltoreq.AVE(i).ltoreq.1. (Col. 8, ll. 4-17). Bonta teaches in an analogous art the modem simulator 40 outputs frame erasure rate data 46, which is stored by computer 12 in memory 18, for computing frame erasure curves based on the

frame erasure rate data 46, where FER is the fraction of frames erased to total frames (F_R- F_T / F_T). (Col. 4, ll. 41-44, col. 6. ll. 11-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rasanen's quality monitoring scheme with Bonta's frame erasure rate data 46 calculating scheme. The artisan would have been motivated to do so because this would enable Rasanen to enhance the quality monitoring scheme take into account the frame erasure rates of the traffic channel.

7. Claims 2-4, 13-15, 24, 26, 28, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasanen et al. (US-5920545), hereinafter Rasanen, in view of Bonta et al. (US-6097957), hereinafter Bonta, and further in view of Hakansson et al. (US-2004/0062274), hereinafter Hakansson.

Claims 2-4 and 13-15:

Rasanen does not explicitly teach "the transmitter transmits silence descriptor frames (also known in the art as comfort noise)". However, Rasanen does teach the GSM system is a time division multiple access system in which communication on the radio path takes place in successive TDMA frames, each of which consists of several time-slots which are mainly used for transmitting control channels and traffic channels where on traffic channels, speech or data is transmitted and on control channels, signaling is carried out between the base station and the mobile station. (Col. 4, ll. 31-41). As background information, Hakansson teaches in any communication system, in order to save transmission capacity, Discontinuous Transmission (DTX) is widely

applied when transmitting speech where the basic principle of DTX is to turn off transmission during speech inactivity, however, so-called comfort noise (CN) parameters are transmitted instead, which enable the decoder to reproduce the inactivity signal, which usually is some kind of background noise. Hakansson also teaches the active link has to convey silence descriptor (SID) frames (also known as background information, or comfort noise, descriptor frames) to the receiver (transmitter transmits silence descriptor frames). Hakansson further teaches SID frames contain CN parameters and enable a receiver to generate a comfort noise silence signal, for example to reassure a listening user that the connection is still active. (Page 1, ¶s 7 and 8). Hakansson goes on to teach SID frames are defined to be transmitted using k TDMA frames, i.e. they consist of k * 114 bits. Rasanen also teaches the use of TDMA frames. It would have been obvious to one of ordinary skill in the art at the time the invention was made that Rasanen teaches a transmitter transmits silence descriptor frames. The artisan would have been motivated to do so because Rasanen uses TDMA frames in which SID frames are transmitted. Also, the artisan would have been motivated to do because Hakansson teaches that it is well known in the art that any communication system transmits SID frames and inserts comfort noise.

Claims 24, 26, 28, 30 and 32:

Rasanen does not explicitly teach "the transmitter transmits silence descriptor frames (also known in the art as comfort noise)". However, Rasanen does teach the GSM system is a time division multiple access system in which communication on the radio path takes place in successive TDMA frames, each of which consists of several

time-slots which are mainly used for transmitting control channels and traffic channels where on traffic channels, speech or data is transmitted and on control channels, signaling is carried out between the base station and the mobile station. (Col. 4, ll. 31-41). As background information, Hakansson teaches in any communication system, in order to save transmission capacity, Discontinuous Transmission (DTX) is widely applied when transmitting speech where the basic principle of DTX is to turn off transmission during speech inactivity, however, so-called comfort noise (CN) parameters are transmitted instead, which enable the decoder to reproduce the inactivity signal, which usually is some kind of background noise. Hakansson also teaches the active link has to convey silence descriptor (SID) frames (also known as background information, or comfort noise, descriptor frames) to the receiver (transmitter transmits silence descriptor frames). Hakansson further teaches SID frames contain CN parameters and enable a receiver to generate a comfort noise silence signal, for example to reassure a listening user that the connection is still active. (Page 1, ¶s 7 and 8). Hakansson goes on to teach SID frames are defined to be transmitted using k TDMA frames, i.e. they consist of k * 114 bits. Rasanen also teaches the use of TDMA frames. It would have been obvious to one of ordinary skill in the art at the time the invention was made that Rasanen teaches a transmitter transmits silence descriptor frames. The artisan would have been motivated to do so because Rasanen uses TDMA frames in which SID frames are transmitted. Also, the artisan would have been motivated to do because Hakansson teaches that it is well known in the art that any communication system transmits SID frames and inserts comfort noise.

8. Claims 6-9, 11 and 17-20, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasanen et al. (US-5920545), hereinafter Rasanen, in view of Bonta et al. (US-6097957), hereinafter Bonta, and further in view of Minde et al. (US-6201960), hereinafter Minde.

Claims 6-8, 11 and 17-19, 22:

Rasanen does not explicitly teach "signaling of the number of received frames replaces a bit error ratio estimate...". However, Rasanen does teach mobile stations (MS) (receiver) are connected to the MSC via base station systems BSS (transmitter), which consists of base station controllers BSC and base stations BTS. (Col. 4, ll. 22-31). Minde teaches a method of speech quality measurement for a basic cellular system consisting of a mobile switching center (MSC) is linked to a plurality of base stations (BS). Minde teaches a predominant factor affecting speech quality in digital systems is the bit error rate (BER), which is the frequency at which bit errors are introduced into the transmitted frames. Minde also teaches in a Global System for Mobile Communication (GSM) network for example, the BER and other related parameters, such as Receive Quality (RxQual) and Receive Level (RxLev), are monitored to assess speech quality. Minde further teaches the perceived quality by the end user provides important information about the current performance level of the network. Minde even further teaches a speech quality measurement process that utilizes temporal information obtained from radio link parameters, e.g. in a D-AMPS network, such as BER, frame error rate (FER), RxLev, handover statistics (per claim 11and 22), soft information, and

speech energy are input into temporal processing stage 16. New parameters obtained from temporal information from the radio link parameters are calculated. (Col. 2, ll. 14-29, col. 3, ll. 57-60). With all this said, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Rasanen's quality monitoring method (as modified per claim 1 and 12 above) to incorporate Minde's quality measuring method. The artisan would have been motivated to do so because it would enable Rasanen to incorporate (F_R- F_T / F_T) into the BER and RxQual parameters.

Claims 9 and 20:

Rasanen also discloses the receiver tests each received frame for correctness and if the frame is detected to be correct, the receiving party acknowledges the reception by using the frame number (calculated only from correctly decoded frames). (Col. 1, ll. 46-67). Rasanen further emphasizes this in that data is transmitted over a non-transparent data connection in data frames using a communication protocol that acknowledges the received correct data frames and re-transmits the received defective data frames. (Col. 2, ll. 66, 67, col. 3, ll. 1-3).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Tabone, Jr. whose telephone number is (571) 272-3827. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John J. Tabone, Jr. 9/30/05
Examiner
Art Unit 2133

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100